GenCore version 4.5


OM protein - protein search, using sw model

Run on: January 30, 2002, 11:49:55 ; Search time 53.29 Seconds
(without alignments)
36.140 Million cell updates/sec

Title: US-09-432-546-6
Perfect score: 183
Sequence: 1 RRWPWWPWKWPLIGGGYDPAPPPPPP 26

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : A_Geneseq_1101:*
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2: /SIDS8/gcgdata/geneseq/geneseqp/AA1981.DAT:*
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16: /SIDS8/gcgdata/geneseq/geneseqp/AA1995.DAT:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | % Query Match | Length | DB | ID | Description |
|---|---|---|---|---|---|---|
| 1 | 183 | 100.0 | 26 | 21 | AAY92798 | Synthetic antimicr |
| 2 | 99 | 54.1 | 13 | 21 | AAY92796 | Synthetic antimicr |
| 3 | 99 | 54.1 | 13 | 21 | AAY92806 | Antimicrobial pept |
| 4 | 99 | 54.1 | 14 | 21 | AAY92797 | Synthetic antimicr |
| 5 | 99 | 54.1 | 15 | 22 | AAB97449 | Peptide nucleic ac |
| 6 | 99 | 54.1 | 68 | 21 | AAY92840 | Rev4-PR-1b fusion. |
| 7 | 78.5 | 42.9 | 15 | 21 | AAY58137 | Gonadotropin relea |
| 8 | 78 | 42.6 | 14 | 18 | AAW13809 | Antimicrobial cati |
| 9 | 75 | 41.0 | 15 | 18 | AAW13801 | Antimicrobial cati |
| 10 | 73 | 39.9 | 11 | 22 | AAB97443 | Peptide nucleic ac |
| 11 | 73 | 39.9 | 13 | 16 | AAR78454 | Indolicidin analog |
| 12 | 73 | 39.9 | 13 | 19 | AAY24549 | Indolicidin analog |
| 13 | 73 | 39.9 | 13 | 21 | AAY91775 | Amino acid sequenc |
| 14 | 71.5 | 39.1 | 248 | 14 | AAR31891 | T.thermophilus HB8 |
| 15 | 70.5 | 38.5 | 15 | 19 | AAW66360 | Indolicidin analog |
| 16 | 70.5 | 38.5 | 15 | 21 | AAY91784 | Amino acid sequenc |
| 17 | 70 | 38.3 | 12 | 19 | AAY24566 | Indolicidin analog |
| 18 | 70 | 38.3 | 12 | 19 | AAY24551 | Indolicidin analog |
| 19 | 70 | 38.3 | 12 | 21 | AAY91787 | Amino acid sequenc |
| 20 | 70 | 38.3 | 12 | 21 | AAY91792 | Amino acid sequenc |
| 21 | 70 | 38.3 | 13 | 18 | AAW12895 | Antimicrobial cati |
| 22 | 70 | 38.3 | 13 | 19 | AAY24607 | Indolicidin analog |
| 23 | 70 | 38.3 | 13 | 19 | AAY24565 | Indolicidin analog |
| 24 | 70 | 38.3 | 13 | 19 | AAW66375 | Cationic peptide o |
| 25 | 70 | 38.3 | 13 | 21 | AAY91786 | Amino acid sequenc |
| 26 | 70 | 38.3 | 13 | 21 | AAY91794 | Amino acid sequenc |
| 27 | 70 | 38.3 | 27 | 19 | AAW66363 | Indolicidin analog |
| 28 | 70 | 38.3 | 28 | 21 | AAY91800 | Amino acid sequenc |
| 29 | 69.5 | 38.0 | 16 | 18 | AAW12899 | Antimicrobial cati |
| 30 | 69 | 37.7 | 520 | 22 | AAB49336 | Murine WASP protei |
| 31 | 68.5 | 37.4 | 534 | 21 | AAY77942 | A. thaliana enviro |
| 32 | 68 | 37.2 | 615 | 21 | AAY82086 | Tobacco ethylene i |
| 33 | 67.5 | 36.9 | 16 | 18 | AAW12882 | Antimicrobial cati |
| 34 | 67 | 36.6 | 11 | 19 | AAY24591 | Indolicidin analog |
| 35 | 67 | 36.6 | 11 | 21 | AAY91834 | Amino acid sequenc |
| 36 | 67 | 36.6 | 13 | 18 | AAW27179 | Antimicrobial cati |
| 37 | 67 | 36.6 | 13 | 18 | AAW12889 | Antimicrobial cati |
| 38 | 67 | 36.6 | 13 | 18 | AAW12894 | Antimicrobial cati |
| 39 | 67 | 36.6 | 13 | 19 | AAY24610 | Indolicidin analog |
| 40 | 67 | 36.6 | 13 | 21 | AAY91795 | Amino acid sequenc |
| 41 | 67 | 36.6 | 20 | 19 | AAY24553 | Indolicidin analog |
| 42 | 67 | 36.6 | 20 | 21 | AAY91797 | Amino acid sequenc |
| 43 | 67 | 36.6 | 63 | 21 | AAY44668 | Poly-(Indol (1-13) |
| 44 | 67 | 36.6 | 63 | 21 | AAY57142 | Indolicidin fusion |
| 45 | 67 | 36.6 | 112 | 15 | AAR45222 | Vpx polypeptide 1. |

ALIGNMENTS

RESULT 1
AAY92798
ID AAY92798 standard; peptide; 26 AA.
XX
AC AAY92798;
XX
DT 29-AUG-2000 (first entry)
XX
DE Synthetic antimicrobial peptide, Rev4-C-fusion.
XX
KW Magainin; antimicrobial; transgenic plant; protease degradation; Rev4;
KW indolicidin; protein production; reverse peptide.
XX
OS Synthetic.
XX
PN WO200026344-A1.
XX
PD 11-MAY-2000.
XX
PF 29-OCT-1999; 99WO-US25561.
XX
PR 30-OCT-1998; 98US-0106373.
PR 02-NOV-1998; 98US-0106537.
XX
PA (INTE-) INTERLINK BIOTECHNOLOGIES LLC.
PA (KENT ) UNIV KENTUCKY RES FOUND.
XX
PI Everett NP, Li Q, Lawrence C, Davies MH;
XX
DR WPI; 2000-365597/31.
XX
PT Polypeptides for reducing proteolytic degradation of proteins
PT administered to, or produced by a plant comprise indolicin or its
PT functional equivalents

```
XX
PS   Claim 4; Page 34; 50pp; English.
XX
CC   Indolicidin is a potent antimicrobial tridecapeptide, originally purified
CC   from cytoplasmic granules of bovine neutrophils. Rev4 (reverse
CC   indolicidin) with a C-terminal extension of 13 amino acids
CC   was found to have increased stability against plant protease degradation
CC   as well as potent antifungal activity. Expression of antimicrobial
CC   peptides in transgenic plants suffers a major limitation in that the
CC   foreign peptides are susceptible to rapid degradation by proteases. The
CC   invention concerns reducing the extent of protease degradation of a
CC   protein applied to, or produced by a plant by administering indolicidin,
CC   Rev4 or a functional equivalent to the plant. Transgenic plants
CC   expressing indolicidin and Rev4 are useful for production of the
CC   antimicrobial peptides. Compositions containing indolicidin and Rev4 are
CC   also useful for production of agronomically important proteins in plants.
XX
SQ   Sequence   26 AA;


  Query Match             100.0%;  Score 183;  DB 21;  Length 26;
  Best Local Similarity   100.0%;  Pred. No. 3.9e-14;
  Matches   26;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 RRWPWWPWKWPLIGGGYDPAPPPPPP 26
          ||||||||||||||||||||||||||
Db      1 rrwpwwpwkwpligggydpapppppp 26


RESULT   2
AAY92796
ID   AAY92796 standard; peptide; 13 AA.
XX
AC   AAY92796;
XX
DT   29-AUG-2000  (first entry)
XX
DE   Synthetic antimicrobial peptide, indolicidin reverse peptide, Rev4-amide.
XX
KW   Magainin; antimicrobial; transgenic plant; protease degradation; Rev4;
KW   indolicidin; protein production; reverse peptide.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   13
FT                   /note= "amidated"
XX
PN   WO200026344-A1.
XX
PD   11-MAY-2000.
XX
PF   29-OCT-1999;   99WO-US25561.
XX
PR   30-OCT-1998;   98US-0106373.
PR   02-NOV-1998;   98US-0106537.
XX
PA   (INTE-) INTERLINK BIOTECHNOLOGIES LLC.
PA   (KENT ) UNIV KENTUCKY RES FOUND.
XX
PI   Everett NP,  Li Q,  Lawrence C,  Davies MH;
XX
DR   WPI; 2000-365597/31.
DR   N-PSDB; AAA28510.
XX
PT   Polypeptides for reducing proteolytic degradation of proteins
PT   administered to, or produced by a plant comprise indolicin or its
PT   functional equivalents
XX
PS   Claim 28; Page 34; 50pp; English.
XX
CC   Indolicidin is a potent antimicrobial tridecapeptide, originally
CC   purified from cytoplasmic granules of bovine neutrophils.  Reverse
CC   peptide, Rev4 of indolicidin (see AAY92794) was found to have increased
CC   stability against plant protease degradation. Expression of antimicrobial
CC   peptides in transgenic plants suffers a major limitation in that the
CC   foreign peptides are susceptible to rapid degradation by proteases. The
CC   invention concerns reducing the extent of protease degradation of a
CC   protein applied to, or produced by a plant by administering indolicidin,
CC   Rev4 or a functional equivalent to the plant. Transgenic plants
CC   expressing indolicidin and Rev4 are useful for production of the
CC   antimicrobial peptides. Compositions containing indolicidin and Rev4 are
CC   also useful for production of agronomically important proteins in
CC   plants.
XX
SQ   Sequence   13 AA;


  Query Match             54.1%;  Score 99;  DB 21;  Length 13;
  Best Local Similarity   100.0%;  Pred. No. 4.2e-05;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 RRWPWWPWKWPLI 13
          |||||||||||||
Db      1 rrwpwwpwkwpli 13


RESULT   3
AAY92806
ID   AAY92806 standard; peptide; 13 AA.
XX
AC   AAY92806;
XX
DT   29-AUG-2000  (first entry)
XX
DE   Antimicrobial peptide, indolicidin reverse peptide, Rev4.
XX
KW   Magainin; antimicrobial; transgenic plant; protease degradation; Rev4;
KW   indolicidin; protein production; reverse peptide.
XX
OS   Synthetic.
XX
PN   WO200026344-A1.
XX
PD   11-MAY-2000.
XX
PF   29-OCT-1999;   99WO-US25561.
XX
PR   30-OCT-1998;   98US-0106373.
PR   02-NOV-1998;   98US-0106537.
XX
PA   (INTE-) INTERLINK BIOTECHNOLOGIES LLC.
PA   (KENT ) UNIV KENTUCKY RES FOUND.
XX
PI   Everett NP,  Li Q,  Lawrence C,  Davies MH;
XX
DR   WPI; 2000-365597/31.
DR   N-PSDB; AAA28510.
XX
PT   Polypeptides for reducing proteolytic degradation of proteins
PT   administered to, or produced by a plant comprise indolicin or its
PT   functional equivalents
XX
PS   Claim 28; Page 35; 50pp; English.
XX
CC   Indolicidin is a potent antimicrobial tridecapeptide, originally
CC   purified from cytoplasmic granules of bovine neutrophils.  Reverse
CC   peptide, Rev4 of indolicidin (see AAY92794) was found to have increased
CC   stability against plant protease degradation. Expression of antimicrobial
CC   peptides in transgenic plants suffers a major limitation in that the
CC   foreign peptides are susceptible to rapid degradation by proteases. The
CC   invention concerns reducing the extent of protease degradation of a
CC   protein applied to, or produced by a plant by administering indolicidin,
CC   Rev4 or a functional equivalent to the plant. Transgenic plants
CC   expressing indolicidin and Rev4 are useful for production of the
CC   antimicrobial peptides. Compositions containing indolicidin and Rev4 are
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```
CC   also useful for production of agronomically important proteins in
CC   plants.
XX
SQ   Sequence   13 AA;


  Query Match             54.1%;  Score 99;  DB 21;  Length 13;
  Best Local Similarity   100.0%;  Pred. No. 4.2e-05;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 RRWPWWPWKWPLI 13
          |||||||||||||
Db      1 rrwpwwpwkwpli 13


RESULT   4
AAY92797
ID   AAY92797 standard; peptide; 14 AA.
XX
AC   AAY92797;
XX
DT   29-AUG-2000  (first entry)
XX
DE   Synthetic antimicrobial peptide, Ser-Rev4-OH.
XX
KW   Magainin; antimicrobial; transgenic plant; protease degradation; Rev4;
KW   indolicidin; protein production; reverse peptide.
XX
OS   Synthetic.
XX
PN   WO200026344-A1.
XX
PD   11-MAY-2000.
XX
PF   29-OCT-1999;   99WO-US25561.
XX
PR   30-OCT-1998;   98US-0106373.
PR   02-NOV-1998;   98US-0106537.
XX
PA   (INTE-) INTERLINK BIOTECHNOLOGIES LLC.
PA   (KENT ) UNIV KENTUCKY RES FOUND.
XX
PI   Everett NP,  Li Q,  Lawrence C,  Davies MH;
XX
DR   WPI; 2000-365597/31.
XX
PT   Polypeptides for reducing proteolytic degradation of proteins
PT   administered to, or produced by a plant comprise indolicin or its
PT   functional equivalents
XX
PS   Claim 3; Page 34; 50pp; English.
XX
CC   Indolicidin is a potent antimicrobial tridecapeptide, originally purified
CC   from cytoplasmic granules of bovine neutrophils.  A non C-terminal amide
CC   analogue of Rev4 (reverse indolicidin) with an additional N-terminal Ser
CC   was found to have increased stability against plant protease degradation
CC   as well as potent antifungal activity. Expression of antimicrobial
CC   peptides in transgenic plants suffers a major limitation in that the
CC   foreign peptides are susceptible to rapid degradation by proteases. The
CC   invention concerns reducing the extent of protease degradation of a
CC   protein applied to, or produced by a plant by administering indolicidin,
CC   Rev4 or a functional equivalent to the plant. Transgenic plants
CC   expressing indolicidin and Rev4 are useful for production of the
CC   antimicrobial peptides. Compositions containing indolicidin and Rev4 are
CC   also useful for production of agronomically important proteins in plants.
XX
SQ   Sequence   14 AA;


  Query Match             54.1%;  Score 99;  DB 21;  Length 14;
  Best Local Similarity   100.0%;  Pred. No. 4.5e-05;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 RRWPWWPWKWPLI 13
          |||||||||||||
Db      2 rrwpwwpwkwpli 14


RESULT   5
AAB97449
ID   AAB97449 standard; Protein; 15 AA.
XX
AC   AAB97449;
XX
DT   31-JUL-2001  (first entry)
XX
DE   Peptide nucleic acid peptide fragment #17.
XX
KW   Peptide nucleic acid; PNA; antibiotic; antisense; enterococcus;
KW   Staphylococcus aureus; Escherichia coli; infectious disease;
KW   disinfectant; cationic peptide; linker.
XX
OS   Synthetic.
XX
PN   WO200127261-A2.
XX
PD   19-APR-2001.
XX
PF   13-OCT-2000; 2000WO-DK00580.
XX
PR   13-OCT-1999;   99DK-0001467.
PR   13-OCT-1999;   99DK-0001471.
PR   15-OCT-1999;   99US-0159679.
PR   15-OCT-1999;   99US-0159684.
PR   03-DEC-1999;   99DK-0001734.
PR   03-DEC-1999;   99DK-0001735.
PR   28-MAR-2000; 2000DK-0000522.
PR   19-APR-2000; 2000DK-0000670.
PR   19-APR-2000; 2000DK-0000671.
PR   14-JUN-2000; 2000US-0211435.
PR   14-JUN-2000; 2000US-0211758.
PR   14-JUN-2000; 2000US-0211878.
XX
PA   (PANT-) PANTHECO AS.
XX
PI   Nielsen PE,  Good L,  Hansen HF,  Beck F,  Malik L,  Schou C;
PI   Wissenbach M,  Giwercman BK;
XX
DR   WPI; 2001-273770/28.
XX
PT   New modified peptide nucleic acids and oligonucleotides, useful for
PT   treating and preventing bacterial infections and disinfecting
PT   non-living objects -
XX
PS   Claim 15; Page 11; 81pp; English.
XX
CC   The present invention provides the sequences of a number of peptide
CC   nucleic acids (PNAs) joined by linker sequences. These are capable of
CC   crossing bacterial cell walls due to the presence of the linker. The PNAs
CC   can be used as antimicrobial agents, particularly as antibiotics against
CC   E. coli, vanomycin-resistant enterococci and Staphylococcus aureus. The
CC   present sequence is the peptide fragment of a PNA of the invention.
XX
SQ   Sequence   15 AA;


  Query Match             54.1%;  Score 99;  DB 22;  Length 15;
  Best Local Similarity   100.0%;  Pred. No. 4.8e-05;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 RRWPWWPWKWPLI 13
          |||||||||||||
Db      2 rrwpwwpwkwpli 14


RESULT   6
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```
AAY92840
ID   AAY92840 standard; Protein; 68 AA.
XX
AC   AAY92840;
XX
DT   29-AUG-2000  (first entry)
XX
DE   Rev4-PR-1b fusion.
XX
KW   Magainin; antimicrobial; transgenic plant; protease degradation; Rev4;
KW   indolicidin; protein production; reverse peptide; ss.
XX
OS   Synthetic.
XX
PN   WO200026344-A1.
XX
PD   11-MAY-2000.
XX
PF   29-OCT-1999;   99WO-US25561.
XX
PR   30-OCT-1998;   98US-0106373.
PR   02-NOV-1998;   98US-0106537.
XX
PA   (INTE-) INTERLINK BIOTECHNOLOGIES LLC.
PA   (KENT ) UNIV KENTUCKY RES FOUND.
XX
PI   Everett NP,  Li Q,  Lawrence C,  Davies MH;
XX
DR   WPI; 2000-365597/31.
DR   N-PSDB; AAA28519.
XX
PT   Polypeptides for reducing proteolytic degradation of proteins
PT   administered to, or produced by a plant comprise indolicin or its
PT   functional equivalents
XX
PS   Disclosure; Page 35-36; 50pp; English.
XX
CC   Indolicidin is a potent antimicrobial tridecapeptide, originally
CC   purified from cytoplasmic granules of bovine neutrophils.  Reverse
CC   peptide, Rev4 of indolicidin (see AAY92794) was found to have increased
CC   stability against plant protease degradation. Expression of antimicrobial
CC   peptides in transgenic plants suffers a major limitation in that the
CC   foreign peptides are susceptible to rapid degradation by proteases. The
CC   invention concerns reducing the extent of protease degradation of a
CC   protein applied to, or produced by a plant by administering indolicidin,
CC   Rev4 or a functional equivalent to the plant. Transgenic plants
CC   expressing indolicidin and Rev4 are useful for production of the
CC   antimicrobial peptides. Compositions containing indolicidin and Rev4 are
CC   also useful for production of agronomically important proteins in
CC   plants.
XX
SQ   Sequence   68 AA;


  Query Match             54.1%;  Score 99;  DB 21;  Length 68;
  Best Local Similarity   100.0%;  Pred. No. 0.00021;
  Matches   13;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 RRWPWWPWKWPLI 13
           |||||||||||||
Db      56 rrwpwwpwkwpli 68


RESULT   7
AAY58137
ID   AAY58137 standard; peptide; 15 AA.
XX
AC   AAY58137;
XX
DT   07-MAR-2000  (first entry)
XX
DE   Gonadotropin releasing hormone (GnRH) peptide analogue 1.
XX
KW   Gonadotropin releasing hormone; GnRH; leukotoxin; LKT; fusion protein;
KW   antibody; immunogenic; chimeric; vaccine; testosterone; androgenic;
KW   non-androgenic; steroid; reduction; weight gain; muscle distribution;
KW   fat distribution; male pattern; boar taint; flavour; impairment;
KW   reliable; immunocastration; meat production.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 1..6
FT                   /note= "D-form residues"
FT   Modified-site   15
FT                   /note= "C-terminally conjugated to ethyl amide"
XX
PN   WO9956771-A2.
XX
PD   11-NOV-1999.
XX
PF   05-MAY-1999;   99WO-CA00360.
XX
PR   05-MAY-1998;   98US-0084217.
XX
PA   (BIOS-) BIOSTAR INC.
XX
PI   Manns JG,  Acres SD,  Harland R;
XX
DR   WPI; 2000-062125/05.
XX
PT   Production of uncastrated male food animals using vaccines -
XX
PS   Disclosure; Page 11; 87pp; English.
XX
CC   Sequences AAY58136-Y58141 represent gonadotropin releasing hormone
CC   (GnRH) analogues which may be used as an alternative to sequence
CC   AAY58135 in embodiments of the present invention. The invention
CC   relates to a method of using two GnRH immunogen vaccines to produce
CC   uncastrated male animals for meat production, one vaccination prior to
CC   or during the fattening period to reduce circulating testosterone
CC   levels, and the second vaccination about 2-8 weeks before slaughter to
CC   substantially reduce androgenic and/or non-androgenic steroids. The
CC   invention is used to produce food animals that exhibit the weight gain
CC   and muscle/fat distribution of male animals without the problems
CC   associated with male animals. Such problems include "boar taint", a
CC   urine-like odour found in cooked meat of uncastrated pigs which is
CC   caused by steroids stored in the tissues, and similar flavour
CC   impairments in the meat of other intact male animals. The invention is
CC   more reliable than prior art immunocastration techniques.
XX
SQ   Sequence   15 AA;


  Query Match             42.9%;  Score 78.5;  DB 21;  Length 15;
  Best Local Similarity   54.5%;  Pred. No. 0.0091;
  Matches   12;  Conservative    0;  Mismatches    3;  Indels    7;  Gaps    1;

Qy       5 WWPWKWPLIGGGYDPAPPPPPP 26
           || | ||       | ||||||
Db       1 wwwwwwp-------ppppppp 15


RESULT   8
AAW13809
ID   AAW13809 standard; peptide; 14 AA.
XX
AC   AAW13809;
XX
DT   10-DEC-1997  (first entry)
XX
DE   Antimicrobial cationic peptide CP-13.
XX
KW   Bacterial; viral; antitumour; food; preservative; inhibitor; growth;
KW   bacterium; yeast; endotoxaemia; sepsis; antibiotic; fungal;
KW   antiviral; Candida albicans; sterilant; Salmonella; Yersina;
```

KW Shigella.
XX
OS Synthetic.
XX
PN WO9708199-A2.
XX
PD 06-MAR-1997.
XX
PF 23-AUG-1996; 96WO-IB00996.
XX
PR 23-AUG-1995; 95US-0002687.
XX
PA (UYBR-) UNIV BRITISH COLUMBIA.
XX
PI Falla TJ, Gough M, Hancock REW;
XX
DR WPI; 1997-179179/16.
XX
PT Cationic peptide(s) having anti-microbial activity - used for the
PT inhibition of bacterial and viral growth, as an antitumour agent,
PT and as a food preservative
XX
PS Claim 8; Page 68; 89pp; English.
XX
CC The present sequence represents a specifically claimed novel isolated
CC cationic peptide which has antimicrobial activity. The amino acid
CC sequence of antimicrobial cationic peptides (including the present
CC sequence) is selected from: X1X1ProX2X3X2Pro(X2X2Pro)nX2X3(X5)o;
CC X1X1ProX2X3X4(X5)rProX2X3X3; X1X1X3(ProTrp)uX3X2X5X2X2X5X2(X5)o;
CC X1X1X3X3X2Pro(X2X2Pro)nX2(X5)m; where m = 1-5; n = 1-2; o = 2-5; r
CC = 0-8; u = 0-1; X1 = Ile, Leu, Val, Phe, Tyr, Trp or Met; X2 = Trp or
CC Phe; X3 = Arg or Lys; X4 = Trp or Lys; and X5 = Phe, Trp, Arg, Lys or
CC Pro. The peptides are preferably amidated or carboxymethylated. The
CC peptides may be used in methods for inhibiting the growth of a bacterium
CC or yeast, or for inhibiting an endotoxaemia or sepsis associated
CC disorder in a subject. The peptides have a broad activity against
CC antibiotic resistant bacteria, combined with activity against the
CC medically important fungus Candida albicans. In addition, the peptides
CC are useful as antitumour agents and/or antiviral agents. The peptides
CC may be used as sterilants or preservatives of materials susceptible to
CC microbial or viral contamination, e.g. in processed foods to inhibit
CC Salmonella, Yersina and Shigella. The peptides are compact and tend to
CC have a unique polyproline type II extended helix structure that permits
CC them to span the membrane with relatively few amino acids. The peptides
CC possess the ability to work synergistically with antibiotics, and in
CC addition, some of then possess anti-endotoxin activity.
XX
SQ Sequence 14 AA;

Query Match 42.6%; Score 78; DB 18; Length 14;
Best Local Similarity 80.0%; Pred. No. 0.0097;
Matches 8; Conservative 2; Mismatches 0; Indels 0; Gaps 0;

Qy 1 RRWPWWPWKW 10
::||||||||
Db 3 kkwpwwpwkw 12

RESULT 9
AAW13801
ID AAW13801 standard; peptide; 15 AA.
XX
AC AAW13801;
XX
DT 10-DEC-1997 (first entry)
XX
DE Antimicrobial cationic peptide CP-27.
XX
KW Bacterial; viral; antitumour; food; preservative; inhibitor; growth;
KW bacterium; yeast; endotoxaemia; sepsis; antibiotic; fungal;
KW antiviral; Candida albicans; sterilant; Salmonella; Yersina;
KW Shigella.
XX
OS Synthetic.
XX
PN WO9708199-A2.
XX
PD 06-MAR-1997.
XX
PF 23-AUG-1996; 96WO-IB00996.
XX
PR 23-AUG-1995; 95US-0002687.
XX
PA (UYBR-) UNIV BRITISH COLUMBIA.
XX
PI Falla TJ, Gough M, Hancock REW;
XX
DR WPI; 1997-179179/16.
XX
PT Cationic peptide(s) having anti-microbial activity - used for the
PT inhibition of bacterial and viral growth, as an antitumour agent,
PT and as a food preservative
XX
PS Claim 3; Page 66; 89pp; English.
XX
CC The present sequence represents a specifically claimed novel isolated
CC cationic peptide which has antimicrobial activity. The amino acid
CC sequence of antimicrobial cationic peptides (including the present
CC sequence) is selected from: X1X1ProX2X3X2Pro(X2X2Pro)nX2X3(X5)o;
CC X1X1ProX2X3X4(X5)rProX2X3X3; X1X1X3(ProTrp)uX3X2X5X2X2X5X2(X5)o;
CC X1X1X3X3X2Pro(X2X2Pro)nX2(X5)m; where m = 1-5; n = 1-2; o = 2-5; r
CC = 0-8; u = 0-1; X1 = Ile, Leu, Val, Phe, Tyr, Trp or Met; X2 = Trp or
CC Phe; X3 = Arg or Lys; X4 = Trp or Lys; and X5 = Phe, Trp, Arg, Lys or
CC Pro. The peptides are preferably amidated or carboxymethylated. The
CC peptides may be used in methods for inhibiting the growth of a bacterium
CC or yeast, or for inhibiting an endotoxaemia or sepsis associated
CC disorder in a subject. The peptides have a broad activity against
CC antibiotic resistant bacteria, combined with activity against the
CC medically important fungus Candida albicans. In addition, the peptides
CC are useful as antitumour agents and/or antiviral agents. The peptides
CC may be used as sterilants or preservatives of materials susceptible to
CC microbial or viral contamination, e.g. in processed foods to inhibit
CC Salmonella, Yersina and Shigella. The peptides are compact and tend to
CC have a unique polyproline type II extended helix structure that permits
CC them to span the membrane with relatively few amino acids. The peptides
CC possess the ability to work synergistically with antibiotics, and in
CC addition, some of then possess anti-endotoxin activity.
XX
SQ Sequence 15 AA;

Query Match 41.0%; Score 75; DB 18; Length 15;
Best Local Similarity 70.0%; Pred. No. 0.022;
Matches 7; Conservative 3; Mismatches 0; Indels 0; Gaps 0;

Qy 1 RRWPWWPWKW 10
::|||||:|
Db 3 kkwpwwpwrw 12

RESULT 10
AAB97443
ID AAB97443 standard; Protein; 11 AA.
XX
AC AAB97443;
XX
DT 31-JUL-2001 (first entry)
XX
DE Peptide nucleic acid peptide fragment #11.
XX
KW Peptide nucleic acid; PNA; antibiotic; antisense; enterococcus;
KW Staphylococcus aureus; Escherichia coli; infectious disease;
KW disinfectant; cationic peptide; linker.
XX
OS Synthetic.

```
XX
FH   Key             Location/Qualifiers
FT   Modified-site   11
FT                   /label= OTHER
FT                   /note= "optionally linked to AAF89184 by Cys
FT                   -succinimidyl 4(N-maleimidomethyl)cyclohexane-1
FT                   -carboxylate-8-amino-3,6-dioxaoctanoic acid"
XX
PN   WO200127261-A2.
XX
PD   19-APR-2001.
XX
PF   13-OCT-2000; 2000WO-DK00580.
XX
PR   13-OCT-1999;   99DK-0001467.
PR   13-OCT-1999;   99DK-0001471.
PR   15-OCT-1999;   99US-0159679.
PR   15-OCT-1999;   99US-0159684.
PR   03-DEC-1999;   99DK-0001734.
PR   03-DEC-1999;   99DK-0001735.
PR   28-MAR-2000; 2000DK-0000522.
PR   19-APR-2000; 2000DK-0000670.
PR   19-APR-2000; 2000DK-0000671.
PR   14-JUN-2000; 2000US-0211435.
PR   14-JUN-2000; 2000US-0211758.
PR   14-JUN-2000; 2000US-0211878.
XX
PA   (PANT-) PANTHECO AS.
XX
PI   Nielsen PE,  Good L,  Hansen HF,  Beck F,  Malik L,  Schou C;
PI   Wissenbach M,  Giwercman BK;
XX
DR   WPI; 2001-273770/28.
XX
PT   New modified peptide nucleic acids and oligonucleotides, useful for
PT   treating and preventing bacterial infections and disinfecting
PT   non-living objects -
XX
PS   Claim 16; Page 68; 81pp; English.
XX
CC   The present invention provides the sequences of a number of peptide
CC   nucleic acids (PNAs) joined by linker sequences. These are capable of
CC   crossing bacterial cell walls due to the presence of the linker. The PNAs
CC   can be used as antimicrobial agents, particularly as antibiotics against
CC   E. coli, vanomycin-resistant enterococci and Staphylococcus aureus. The
CC   present sequence is the peptide fragment of a PNA of the invention.
XX
SQ   Sequence   11 AA;
```

```
  Query Match             39.9%;  Score 73;  DB 22;  Length 11;
  Best Local Similarity   100.0%;  Pred. No. 0.028;
  Matches    9;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       1 RRWPWWPWK 9
           |||||||||
Db       2 rrwpwwpwk 10
```

```
RESULT  11
AAR78454
ID   AAR78454 standard; peptide; 13 AA.
XX
AC   AAR78454;
XX
DT   25-MAR-1996  (first entry)
XX
DE   Indolicidin analog #1.
XX
KW   Indolicidin; microbicide; therapeutic agent; prophylactic;
KW   food preservative; disinfectant; medication; Gram positive bacteria;
KW   Gram negative bacteria; protozoa; yeast; fungi; viruses.
XX
OS   Synthetic.
XX
FH   Key             Location/Qualifiers
FT   Misc-difference 13
FT                   /note= "Arg to Trp mutation, amidated"
XX
PN   WO9522338-A1.
XX
PD   24-AUG-1995.
XX
PF   10-FEB-1995;   95WO-US01895.
XX
PR   16-FEB-1994;   94US-0197205.
XX
PA   (REGC ) UNIV CALIFORNIA.
XX
PI   Selsted ME;
XX
DR   WPI; 1995-302552/39.
XX
PT   Analogues of the tryptophan-rich peptide indolicidin - exhibiting
PT   broad spectrum antimicrobial activity and selectivity without
PT   undesirable side effects
XX
PS   Claim 6; Page 27; 37pp; English.
XX
CC   The sequences represented by AAR78454-R78459 are indolicidin analogues.
CC   These analogues exhibit broad spectrum antimicrobial activity and have
CC   antimicrobial selectivity when compared to naturally occuring
CC   indolicidin.  The antimicrobial activity of these analogues can be
CC   altered by incorporation of D-form, chemically altered or synthetic
CC   amino acids.  These sequences can be incorporated into a pharmaceutical
CC   composition (e.g. as a liposome or non-liposome lipid complex carrier)
CC   for use in a microbicidal method.  These sequences are active against
CC   Gram positive and negative bacteria, protozoa, yeast, fungi and viruses.
CC   They can be used as therapeutic agents, prophylactics, food
CC   preservatives, disinfectants or medications.  These sequences are easily
CC   synthesised in an active and effective broad spectrum antimicrobial form
CC   with decreased undesirable side effects.  Compared to naturally occuring
CC   indolicidin, these analogues show increased antimicrobial and decreased
CC   haemolytic activity.  Peptide stability, and period of activity within
CC   the cell can be increased or decreased according to the incorporation of
CC   D- or L-form amino acids.
XX
SQ   Sequence   13 AA;
```

```
  Query Match             39.9%;  Score 73;  DB 16;  Length 13;
  Best Local Similarity   77.8%;  Pred. No. 0.032;
  Matches    7;  Conservative    2;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 RWPWWPWKW 10
           :|||||||:|
Db       5 kwpwwpwrw 13
```

```
RESULT  12
AAY24549
ID   AAY24549 standard; peptide; 13 AA.
XX
AC   AAY24549;
XX
DT   18-AUG-1999  (first entry)
XX
DE   Indolicidin analogue #1.
XX
KW   Indolicidin; bacterial infection; photo-oxidised solubiliser;
KW   antimicrobial; antibiotic; antiarrythmic; surface disinfectant;
KW   additive; shampoo; soap; insecticide; herbicide; preservative;
KW   food; technical material.
XX
OS   Synthetic.
XX
```

PN WO9807745-A2.
XX
PD 26-FEB-1998.
XX
PF 21-AUG-1997; 97WO-US14779.
XX
PR 13-JAN-1997; 97US-0034949.
PR 21-AUG-1996; 96US-0024754.
XX
PA (MICR-) MICROLOGIX BIOTECH INC.
XX
PI Erfle D, Fraser JR, Krieger TJ, Taylor R, West MH;
XX
DR WPI; 1998-169090/15.
XX
PT New indolicidin analogues with antimicrobial activity and related
PT nucleic acid - vectors, transformed cells and antibodies, also
PT conjugates with polyoxyalkylene glycol and fatty acid to reduce
PT toxicity, useful therapeutically, as disinfectants etc.
XX
PS Claim 11; Page 88; 129pp; English.
XX
CC AAY24549 to AAY24615 represent indolicidin analogues of formulae
CC (I)-(VIII) containing up to 25 amino acids (aa): RXZXXZXB (I), BXZXXZXB
CC (II), BBBXZXXZXB (III), BXZXXZXBBBn(AA)nMILBBAGS (IV), BXZXXZXBB(AA)nM
CC (V), LBBnXZnXXZnXRK (VI), LKnXZXXZXRRK (VII) and BBXZXXZXBBB (VIII).
CC Where Z = P or V; X = hydrophobic residue, preferably W; B = basic aa,
CC preferably R or K; AA = any aa; n = 0 or 1; in (II), at least 1 Z = V;
CC in (VIII) at least 2 X = F or Y. The analogues are used to treat
CC infections caused by bacteria (Gram positive or negative, or anaerobic);
CC fungi (yeast or moulds); parasites (protozoa, nematodes, cestodes or
CC trematodes) or viruses. Typical of very many pathogens that can be
CC controlled are Leishmania, Trypanosoma, Ascaris lumbricoides, Fasciola
CC hepatica, Klebsiella pneumoniae, Bordetella pertussis, Staphylococcus
CC aureus, Listeria, Clostridium, rotavirus and papilloma virus. Compounds
CC derived from the analogues may be used similarly; the compounds may
CC also be prepared from antibiotics or antiarrythmic agents. The analogues
CC may be used therapeutically or to coat medical devices; also they are
CC useful as surface disinfectants, as additives to shampoo or soaps, as
CC insecticides or herbicides, or as preservatives for foods and technical
CC materials. The analogues are administered by injection, lavage, orally
CC or topically, generally at 0.1-50 mg/kg. These analogues have a broader
CC spectrum of activity than indolicidin and modification as compounds
CC reduces their toxicity.
XX
SQ Sequence 13 AA;

Query Match 39.9%; Score 73; DB 19; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.032;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 RRWPWWPWK 9
||||||||| 
Db 2 rrwpwwpwk 10

RESULT 13
AAY91775
ID AAY91775 standard; Peptide; 13 AA.
XX
AC AAY91775;
XX
DT 06-JUN-2000 (first entry)
XX
DE Amino acid sequence of cationic peptide MBI 11CNR.
XX
KW Cationic peptide; tumour; pharmaceutical composition; cancer; treatment;
KW leukaemia; polyoxyalkylene-modified; APO; lymphoma; multiple myeloma;
KW breast; lung; ovary; cervix; uterus; skin; prostate; liver; colon;
KW multidrug resistance.
XX
OS Synthetic.

XX
PN WO9965506-A2.
XX
PD 23-DEC-1999.
XX
PF 14-JUN-1999; 99WO-CA00552.
XX
PR 12-JUN-1998; 98US-0096541.
XX
PA (MICR-) MICROLOGIX BIOTECH INC.
XX
PI Friedland HD, Krieger TJ, Taylor R, Erfle D, Fraser JR, West MHP;
XX
DR WPI; 2000-223549/19.
XX
PT Novel pharmaceutical composition containing optionally activated
PT polyoxyalkylene-modified cationic peptides, useful for treating tumours
PT -
XX
PS Disclosure; Page 14; 94pp; English.
XX
CC This sequence represents a cationic peptide amino acid sequence, which
CC can be used in the pharmaceutical composition of the invention. The
CC invention relates to a pharmaceutical composition containing at least one
CC activated polyoxyalkylene (APO)-modified cationic peptide. The
CC modification of peptides with APO increases their activity against tumour
CC cells, including those with a multidrug resistant phenotype. The
CC pharmaceutical composition can be used to treat tumours, specifically
CC lymphoma, leukaemia, multiple myeloma, or tumours of breast, lung, ovary,
CC cervix, uterus, skin, prostate, liver and colon.
XX
SQ Sequence 13 AA;

Query Match 39.9%; Score 73; DB 21; Length 13;
Best Local Similarity 100.0%; Pred. No. 0.032;
Matches 9; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Qy 1 RRWPWWPWK 9
||||||||| 
Db 2 rrwpwwpwk 10

RESULT 14
AAR31891
ID AAR31891 standard; Protein; 248 AA.
XX
AC AAR31891;
XX
DT 03-JUN-1993 (first entry)
XX
DE T.thermophilus HB8 26.8kD NADH-oxidase.
XX
KW ATCC 27634; reduced Nicotinamide Adenine Dinucleotide;
KW bio-sensor; EC 1.6.99.3; ss.
XX
OS Thermus thermophilus.
XX
FH Key Location/Qualifiers
FT Region 1..33
FT /note= "directly sequenced from purified protein"
XX
PN DE4221830-A.
XX
PD 28-JAN-1993.
XX
PF 03-JUL-1992; 92DE-4221830.
XX
PR 25-JUL-1991; 91DE-4124746.
XX
PA (GBFB ) GBF GES BIOTECH FORSCHUNG GMBH.
XX
PI Park H, Sprinzl M;

XX
DR WPI; 1993-037629/05.
DR N-PSDB; AAQ36369.
XX
PT Escherichia coli expression vector for NADH-oxidase gene -
PT derived from gene isolated from Thermus thermophilus,
PT useful as highly stable bio-sensor
XX
PS Claim 1; Page 11 and Fig 7; 21pp; German.
XX
CC NADH-oxidase was purified and partially sequenced. Two probe pools
CC wre designed based on the N-terminal amino acid sequence (see
CC AAQ36365 and AAQ36366) and were used to screen a genomic library of
CC T.thermophilus HB8 (ATCC 27634) in cosmid pHC79. A 2.2kb SacI
CC fragment hybridised to both probes and was further investigated.
CC The NADH-oxidase coding sequence was localised to a 1125bp sequence
CC and the N-terminal amino acid sequence deduced from the ORF
CC correlated with that obtained by direct sequencing of the purified
CC enzyme. E.coli expression vectors contg. the CDS coding for the
CC 26.8kD NADH-oxidase are claimed. The recombinantly produced enzyme
CC can be used as a biosensor and being derived from a thermophilic
CC organism it is relatively heat-stable.
CC See also AAQ36367-Q36368.
XX
SQ Sequence 248 AA;

Query Match 39.1%; Score 71.5; DB 14; Length 248;
Best Local Similarity 44.1%; Pred. No. 0.84;
Matches 15; Conservative 0; Mismatches 8; Indels 11; Gaps 3;

Qy 1 RRW---------PWWPWKWPLIGGGYDPAPPPPP 25
| | ||||| ||| | ||| |
Db 167 rswgflptppsppwwpwa-trtgggl-plpppap 198

RESULT 15
AAW66360
ID AAW66360 standard; peptide; 15 AA.
XX
AC AAW66360;
XX
DT 12-JAN-1999 (first entry)
XX
DE Indolicidin analogue MBI 11A9.
XX
KW Indolicidin analogue; resistance; cationic peptide; antibiotic;
KW bacterial infection; tolerance; antibacterial; microorganism;
KW bacteria; fungus; parasite; virus.
XX
OS Bos taurus.
OS Synthetic.
XX
PN WO9840401-A2.
XX
PD 17-SEP-1998.
XX
PF 10-MAR-1998; 98WO-CA00190.
XX
PR 25-FEB-1998; 98US-0030619.
PR 10-MAR-1997; 97US-0040649.
PR 20-AUG-1997; 97US-0915314.
PR 26-SEP-1997; 97US-0060099.
XX
PA (MICR-) MICROLOGIX BIOTECH INC.
XX
PI Fraser JR, McNicol PJ, West MHP;
XX
DR WPI; 1998-520800/44.
XX
PT New indolicidin peptide analogues - useful for, e.g. enhancing
PT activity of antibiotic or overcoming tolerance, acquired resistance
PT or inherent resistance of microorganisms
XX
PS Claim 1; Page 91; 105pp; English.
XX
CC The present sequence represents an indolicidin analogue. The present
CC invention describes compositions and methods for treating infection,
CC especially bacterial infections. The compositions and methods use
CC cationic peptides in combination with an antibiotic agent which are
CC then administered to a patient to enhance the activity of the antibiotic
CC agent, to overcome: (a) tolerance; (b) acquired resistance; and (c)
CC inherent resistance. The combinations of antibiotics and cationic
CC peptides can provide synergistic activity against a microorganism that
CC is tolerant, inherently resistant, or has acquired resistance to an
CC antibiotic agent. They can be used for killing e.g. bacteria, fungi,
CC parasites and viruses.
XX
SQ Sequence 15 AA;

Query Match 38.5%; Score 70.5; DB 19; Length 15;
Best Local Similarity 90.0%; Pred. No. 0.071;
Matches 9; Conservative 0; Mismatches 0; Indels 1; Gaps 1;

Qy 2 RWPWWPWKWP 11
||||||| ||
Db 3 rwpwwpw-wp 11

Search completed: January 30, 2002, 11:49:55
Job time: 94 sec